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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/618,474	KURAUCHI, NOBUKAZU	
	Examiner	Art Unit	
	Edward C. Sipple IV	4178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07/11/2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/6/05,8/28/06,10/22/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

i. Page 13 Line 5, "interframe" is used instead of –intraframe--,

ii. Page 42 Lines 4-8, the Specification refers to *the router* as Element 17 (in Figures 8A and 8B) which is inconsistent/unclear with regards to the subsequent description of the routers embodied as Elements 701-703,

iii. Page 42 Line 14, the Specification refers to the distribution server as Element 17, which is not consistent with Page 42 Line 5, and the referenced Drawing Fig. 8B,

iv. Page 53 Line 11 and Page 55 Line 4, the Specification refers to Element 1553 as both a decoder and an encoder,

v. Page 53, the Specification refers to Elements 1552 and 1553 as "auxiliary", which is inconsistent with Figure 12 referring to Elements 1552 and 1553 as "supplementary".

Appropriate correction is required.

Claim Objections

2. **Claim 2** is objected to because of the following informality: the phrase "a transmission unit" is repeated. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claim 17** is rejected under 35 U.S.C. 101 because Claim 17 claims "a program"

The software claimed is claimed as a computer listing per se. i.e., the descriptions or expressions of the programs are not physical "things". They are neither computer components nor a statutory process, as they are not "acts" being performed. Such claimed computer program software does not define any structural and functional interrelationships between the computer program and the other claimed elements of a computer, which permit the computer program's functionality to be realized. As such, a software program not claimed as embodied in a computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. Because the full scope of the claim as properly read in light of the disclosure encompasses non-statutory subject matter, the claim as a whole is non-statutory and appears to be one type of claim that is considered nonstatutory, under the present USPTO Interim Guidelines, 100 Official Gazette Patent and Trademark Office 142 (Nov. 22, 2005).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1**, **10-17** are rejected under 35 U.S.C. 102(e) as being anticipated by Satoda (U. S. Patent Application Publication 2002/0147980).

For **Claim 1** Satoda teaches:

a video data transmission/reception system (see Abstract) comprising a transmission-side apparatus (Figure 1 Element 10) and a plurality of reception terminals (Fig. 1 Elem. 40, with Paragraph [0105] Lines 5-10), the transmission-side apparatus transmitting video data that has been compressed using motion compensation interframe prediction (Paragraph [0122] Lines 1-10), and the reception terminals receiving the video data and decoding the received video data (Paragraph [0113]), wherein the transmission-side apparatus includes:

a first encoding unit (Fig. 5 Elem. 23) operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data (Paragraph [0122] Lines 6-10 and Paragraph [0129] Lines 1-5);

a second encoding unit (Fig. 5 Elem. 22) operable to apply, in parallel with the encoding processing by the first encoding unit (Fig. 5, note Elements 22 and 23 are in parallel), intraframe encoding processing to a frame of the moving image data, to generate substitute I frame data (Paragraph [0122] Lines 1-6, and

Paragraph [0133] Lines 1-7); and

a transmission unit operable to transmit the video data and the substitute I frame data to the plurality of reception terminals (Fig. 1 Elem. 32 with Paragraph [0108]),

wherein when the transmission unit is to resume transmission of the video data to one of the reception terminals after temporarily interrupting transmission of the video data to the reception terminal (Paragraph [0157] Lines 1-7, and also Paragraph [0108] Lines 1-9, note a channel change interrupts the video data), the transmission unit transmits at least one frame's worth of the substitute I frame data to the reception terminal (Paragraph [0108] Lines 4-9) before resuming transmission of the video data (Paragraph [0123] Lines 1-8), and

the reception terminal, when the transmission unit is to resume the temporarily interrupted transmission of the video data, receives the transmitted substitute I frame data, decodes the received substitute I frame data (note Fig. 1 Elem. 42), and uses the decoded substitute I frame data as reference frame data to decode video data that is received after resumption of transmission (Paragraph [0133] Lines 1-7).

For **Claim 10** Satoda teaches:

a video data transmission apparatus (see Abstract) that transmits video data that has been compressed using motion compensation interframe prediction (Paragraph [0122] Lines 1-10) to a plurality of reception terminals (Fig. 1 Elem. 40, with Paragraph [0105] Lines 5-10), comprising:

a first encoding unit (Fig. 5 Elem. 22) operable to apply intraframe encoding processing to a frame of moving image data, to generate intraframe encoded video data (Paragraph [0122] Lines 1-7);

a second encoding unit (Fig. 5 Elem. 23) operable to apply interframe encoding processing to a frame of moving image data, to generate interframe encoded video data (Paragraph [0122] Lines 1-10);

a video data generation unit (Fig. 1 Elem. 31) operable to generate the video data from the intraframe encoded video data and the interframe encoded video data (Paragraph [0123] Lines 1-8); and

a transmission unit (Fig. 1 Elem. 32) operable to transmit the video data to the plurality of reception apparatuses (Paragraph [0108] Lines 4-9),

wherein when the transmission unit is to resume transmission of the video data to one of the reception terminals after temporarily interrupting transmission of the video data to the reception terminal (as during channel changes, see Paragraph [0114] Lines 1-7), the transmission unit transmits at least one frame's worth of the intraframe encoded video data (Paragraph [0123] Lines 1-8) to the reception terminal as substitute I frame data before resuming transmission of the video data (Paragraph [0133] Lines 1-7)

For **Claim 11** Satoda teaches:

a video data transmission/reception system (see Abstract) comprising a plurality of video data provision apparatuses (Fig. 1 Elem. 20 with Paragraph [0109] Lines 1-6), a plurality of reception terminals (Fig. 1 Elem. 40, with

Paragraph [0105] Lines 5-10), and a distribution server (Fig. 1 Elem. 10, note Satoda teaches data provision apparatuses external to the distribution server, see Fig. 7 and Paragraph [0146]), the video data provision apparatuses transmitting video data that has been compressed using motion compensation interframe prediction (Fig. 5 Elem. 20a with Paragraph [0122] Lines 1-10), each reception terminal receiving the video data from any one of the video data provision apparatuses (Paragraph [0105] Lines 1-10) and decoding the received video data (Paragraph [0113] Lines 1-7), and the distribution server conveying the video data between the video data provision apparatuses and the reception terminals (Paragraph [0104] Lines 1-4), wherein

each video data provision apparatus includes:

a first encoding unit (Fig. 5 Elem. 23) operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data (Paragraph [0122] Lines 6-10 and Paragraph [0129] Lines 1-5); and

a second encoding unit (Fig. 5 Elem. 22) operable to apply, in parallel with the encoding processing by the first encoding unit (note in Fig. 5 that Elements 22 and 23 are in parallel), intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data (Paragraph [0122] Lines 1-6 and Paragraph [0129] Lines 1-5), and

the distribution server includes:

a switch request reception unit (Fig. 1 Elem. 30) operable to receive a request from one of the reception terminals to switch video data received by the reception terminal to different video data (Paragraph [0108] Lines 1-9); and

a switch transmission unit (Fig. 1 Elem. 31) operable, on the switch request reception unit receiving the request, to stop transmission of the video data being transmitted to the request-originating user terminal (Paragraph [0123] Lines 1-4, note switching to a different video source includes breaking off from the previous source), obtain substitute I frame data from a video data provision apparatus that is to provide the different video data (Paragraph [0132] Lines 1-3), transmit the obtained substitute I frame data to the user terminal (Paragraph [0132] Lines 2-4), and transmit the different video data to the user terminal (Paragraph [0132] Lines 4-7).

For **Claim 12** Satoda teaches:

a distribution server (Fig. 1 Elem. 10) in a video data transmission/reception system (see Abstract) that further includes a plurality of video data provision apparatuses (Fig. 1 Elem. 20 with Paragraph [0109] Lines 1-6) and a plurality of reception terminals (Fig. 1 Elem. 40, with Paragraph [0105] Lines 5-10), the video data provision apparatuses transmitting video data that has been compressed using motion compensation interframe prediction (Paragraph [0122] Lines 1-10), each reception terminal receiving video data from any one of the video data provision apparatuses (Paragraph [0105] Lines 1-10 and Paragraph [0108] Lines 1-9), and the distribution server conveying the

video data between the video data provision apparatuses and the reception terminals (Paragraph [0108] Lines 1-9), the distribution server comprising:

a switch request reception unit (Fig. 1 Elem. 30) operable to receive a request from one of the reception terminals to switch video data received by the reception terminal to different video data (Fig. 1 Elem. 33 with paragraph [0108] Lines 1-9); and

a switch transmission unit (Fig. 1 Elem. 31) operable, on the switch request reception unit receiving the request, to stop transmission of the video data being transmitted to the request-originating user terminal (Paragraph [0123] Lines 1-4, note switching to a different video source includes breaking off from the previous source), obtain substitute I frame data from a video data provision apparatus that is to provide the different video data (Paragraph [0132] Lines 1-3), transmit the obtained substitute I frame data to the user terminal (Paragraph [0132] Lines 2-4), and transmit the different video data to the user terminal (Paragraph [0132] Lines 4-7).

For **Claim 13** Satoda teaches:

a video data provision apparatus (Fig. 1 Elem. 10) in a video data transmission/reception system (see Abstract) that includes a plurality of video data provision apparatuses (Fig. 1 Elem. 20 with Paragraph [0109] Lines 1-6), a plurality of reception terminals (Fig. 1 Elem. 40, with Paragraph [0105] Lines 5-10), and a distribution server (Fig. 1 Elem. 30), the video data provision apparatuses transmitting video data that has been compressed using motion

compensation interframe prediction (Paragraph [0122] Lines 1-10), each reception terminal receiving video data from any one of the video data provision apparatuses (Paragraph [0105] Lines 1-10 and Paragraph [0108] Lines 1-9), and the distribution server conveying the video data between the video data provision apparatuses and the reception terminals (Paragraph [0108] Lines 5-9), the video data provision apparatus comprising:

a first encoding unit (Fig. 5 Elem. 23) operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data (Paragraph [0122] Lines 6-10 and Paragraph [0129] Lines 1-5); and

a second encoding unit (Fig. 5 Elem. 22) operable to apply, in parallel with the encoding processing by the first encoding unit (note in Fig. 5 that Elements 22 and 23 are in parallel), intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data (Paragraph [0122] Lines 1-6, and Paragraphs [0132-0133]),

a transmission unit (Fig. 1 Elem. 31) operable to transmit the video data to the distribution server (Paragraph [0108] Lines 4-9), and, when one of the reception terminals requests to switch video data being received to the video data being transmitted by the transmission unit (Paragraph [0108] Lines 1-9), transmit at least one frame of substitute I frame data to the reception terminal via the distribution server (Paragraph [0108] Lines 4-9), before the switch (Paragraph [0123] Lines 1-8 and Paragraph [0132] Lines 1-7, note an initial I

frame is transmitted prior to switching to the interframe encoding of Fig. 5 Element 23).

For **Claim 14** Satoda teaches:

an encoder (Fig. 5) that compresses moving image data using motion compensation interframe prediction (Paragraph [0122] Lines 6-10), comprising:

a first encoding unit (Fig. 5 Elem. 23) operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data (Paragraph [0122] Lines 6-10, and Paragraph [0129] Lines 1-5); and

a second encoding unit (Fig. 5 Elem. 22) operable to apply, in parallel with the encoding processing by the first encoding unit (note in Fig. 5 that Elements 22 and 23 are in parallel), intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data (Paragraph [0129] Lines 1-5, and paragraphs [0132-0133]).

For **Claim 15** Satoda teaches:

an encoder (Fig. 1 Elem. 10) that compresses moving image data using motion compensation interframe prediction (Fig. 1 Elem. 20, with Paragraph [0122] Lines 6-10, note Paragraph [0121]), comprising:

a first encoding unit (Fig. 5 Elem. 22) operable to apply intraframe encoding processing to a frame of moving image data, to generate intraframe encoded video data (Paragraph [0122] Lines 1-6);

a second encoding unit (Fig. 5 Elem. 23) operable to apply interframe

encoding processing to a frame of moving image data, to generate interframe encoded video data (Paragraph [0122] Lines 6-10);

an encoded video data generation unit (Fig. 1 Elem. 30) operable to generate encoded video data from the intraframe encoded video data and the interframe encoded video data (Paragraph [0132] Lines 1-7 and Paragraph [0133] Lines 1-7); and

a substitute data generation unit (Fig. 1 Elem. 31) operable to generate substitute I frame data from the intraframe encoded video data (Paragraph [0132] Lines 1-4 and Paragraph [0133] Lines 1-7).

For **Claim 16** Satoda teaches:

a video data transmission/reception method (see Abstract) used by a transmission-side apparatus (Fig. 1 Elem. 10) and one of a plurality of reception terminals (Fig. 1 Elem. 40, with Paragraph [0105] Lines 5-10) in a video data transmission/reception system (Fig. 1) in which the transmission-side apparatus that transmits video data that has been compressed using motion compensation interframe prediction (Paragraph [0122] Lines 1-10), and the plurality of reception terminals receive the video data (Paragraph [0123] Lines 1-8) and decode the received video data (Paragraph [0133] Lines 1-7), the method comprising:

a first encoding step (Paragraph [0122]), in the transmission-side apparatus (note the configuration of Fig. 1 Elements 10 and 20), of applying intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data (Paragraph

[0122] Lines 6-10 and Paragraph [0129] Lines 1-5);

a second encoding step (Paragraph [0122] Lines 1-4), in the transmission-side apparatus (note the configuration of Fig. 1 Elements 10 and 20), of applying, in parallel with the first encoding step (note in Fig. 5 that Elements 22 and 23 are in parallel), intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data (Paragraph [0122] Lines 1-4, and paragraph [0132] Lines 1-4);

a video data transmission step, in the transmission-side apparatus, of transmitting the video data to a reception-side apparatus (Fig. 1 Elem. 32 with Paragraph [0108] Lines 4-9);

a transmission interruption step, in the transmission-side apparatus, of interrupting transmission of the video data to the reception-side apparatus (Paragraph [0114] Lines 1-6, note a channel change involves breaking communication with a current encoding unit {Elem. 22} in order to connect with different encoding unit {Elem. 22} , see Paragraphs [0130-0131]);

a substitute data transmission step, in the transmission-side apparatus, of transmitting at least one frame's worth of the substitute I frame data to the reception terminal (Paragraph [0132] Lines 1-5);

a substitute data decoding step, in the reception terminal, of decoding the substitute I frame data (Paragraph [0133] Lines 1-7);

a video data retransmission step, in the transmission side apparatus, of resuming transmission of the video data to the reception terminal (Paragraphs

[0137-0138]); and

a video data decoding step, in the reception terminal, of decoding the video data received after resumption of transmission, using data obtained as a result of executing the substitute data decoding step, as reference frame data (Paragraph [0139] Lines 1-9).

For **Claim 17** Satoda teaches:

a program for having executed in a computer (see Paragraph [0154]) a video data transmission method (see abstract) used by a transmission-side apparatus (Fig. 1 Elem. 10) in a video data transmission/reception system (Fig. 1) in which the transmission-side apparatus that transmits video data that has been compressed using motion compensation interframe prediction (Paragraph [0122] Lines 1-10), and a plurality of reception terminals receive the video data (Paragraph [0105] Lines 5-10, and Paragraph [0123] Lines 1-8) and decode the received video data (Paragraph [0133] Lines 1-7), the method comprising:

a first encoding step (Paragraph [0122] Lines 6-10) of applying intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data (Paragraph [0122] Lines 6-10 and Paragraph [0129] Lines 1-5);

a second encoding step (Paragraph [0122] Lines 1-4) of applying, in parallel with the first encoding step (note in Fig. 5 that Elements 22 and 23 are in parallel), intraframe encoding processing to each of a plurality of frames of the moving image data, to generate substitute I frame data (Paragraph [0122] Lines

1-4, and paragraph [0132] Lines 1-4);

a video data transmission step of transmitting the video data to a reception-side apparatus (Fig. 1 Elem. 32 with Paragraph [0108] Lines 4-9);

a transmission interruption step of interrupting transmission of the video data to the reception-side apparatus (Paragraph [0114] Lines 1-6, note a channel change involves breaking communication with a current encoding unit {Elem. 22} in order to connect with different encoding unit {Elem. 22}, see Paragraphs [0130-0131]);

a substitute data transmission step of transmitting at least one frame's worth of the substitute I frame data to the reception terminal (Paragraph [0132] Lines 1-5); and

a video data retransmission step of resuming transmission of the video data to the reception terminal (Paragraphs [0137-0138]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 2-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunkel (U.S. Patent 7,100,183) in view of Satoda (U. S. Patent Application Publication (2002/0147980).

For **Claim 2** Kunkel teaches:

a video data transmission apparatus (Fig. 1 with Col. 3 Lines 4-9) that transmits video data that has been compressed using motion compensation interframe prediction (Col. 3 Lines 31-35) to a plurality of reception terminals (Fig. 1 Elements 16, 27 and 29, with Col. 3 Lines 50-57), comprising:

a transmission unit operable to transmit the video data and the substitute I frame data to the plurality of reception terminals (Fig. 1 Elements 12 with Col. 4 Lines 26-33, with Col. 7 Lines 14-17), and when the transmission unit is to resume transmission of the video data to one of the reception terminals after temporarily interrupting transmission of the video data to the reception terminal (Col. 7 Lines 10-14), the transmission unit transmits at least one frame's worth of the substitute I frame data to the reception terminal before resuming transmission of the video data (Col. 7 Lines 8-17, note I frames are provided during the transition from a targeted advertisement to the original programming),

Kunkel further teaches:

the transmission side apparatus receives source video programming that is either in an analog or digital format (Col. 3 Lines 31-35)

Kunkel does not teach:

a first encoding unit operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data; and

a second encoding unit operable to apply, in parallel with the encoding

processing by the first encoding unit, intraframe encoding processing to a frame of the moving image data, to generate substitute I frame data;

Satoda teaches:

a first encoding unit (Fig. 5 Elem. 23) operable to apply intraframe encoding processing or interframe encoding processing to each of a plurality of frames of moving image data, to generate the video data (Paragraph [0122] Lines 6-10 and Paragraph [0129] Lines 1-5);

a second encoding unit (Fig. 5 Elem. 22) operable to apply, in parallel with the encoding processing by the first encoding unit (Fig. 5, note Elements 22 and 23 are in parallel), intraframe encoding processing to a frame of the moving image data, to generate substitute I frame data (Paragraph [0122] Lines 1-6, and Paragraph [0133] Lines 1-7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a first encoding unit operable to produce I/B/P (intra/inter-coded) frames, and in parallel, a second encoding unit operable to produce only I (intra-coded) frames as taught by Satoda, within the video transmission device taught by Kunkel. The motivation would have been to produce both combined intra/inter coded frames for use in standard broadcasting, and substitute intra coded video frames of the same broadcast for use in providing a smooth transition between broadcast and targeted video streams (see Kunkel Col. 6 Lines 63-67 and Col. 7 Lines 5-17).

For **Claim 3** as discussed in independent Claim 2, Kunkel further teaches:

the video data transmission apparatus of Claim 2, further comprising:

an option data transmission unit operable to transmit option video data to the reception terminal (Fig. 1 Elements 12 and 46; with Col. 4 Lines 65-67 through Col. 5 Lines 1-6, and Col. 5 Lines 40-48), in parallel with the transmission of the video data (Fig. 1 Elements 14, 18, 42 and 16; with Col. 3 Lines 7-11, note the multiple parallel downstream channels dedicated to a single set top box),

wherein the interruption of video data transmission to the reception terminal is caused by the transmission of the option video data (Col. 6 Lines 16-22, and Col. 7 Lines 10-17).

For **Claim 4** as discussed in Claim 3, Kunkel further teaches:

the video data transmission apparatus of Claim 3, wherein the option data transmission unit includes:

an information collection sub-unit (Fig. 1 Elements 16, 19 and 20) operable to collect, from each of one or more of the reception terminals, information about preferences of a user of the reception terminal (Col. 3 Lines 21-28 with Col. 4 Lines 13-20), and

based on the collected information, selects contents of option data to be transmitted (Col. 4 Lines 47-50 and Col. 5 Lines 58-61).

For **Claim 5** as discussed in Claim 3, Kunkel further teaches:

the video data transmission apparatus of Claim 3, wherein the transmission unit includes:

a broadcast transmission sub-unit operable to broadcast a same data to a plurality of transmission destinations (Fig. 2A Elem. 48 with Col. 5 Lines 54-67 through Col. 6 Lines 1-8); and

an individual transmission sub-unit operable to transmit individual data to an individual transmission destination (Fig. 2A Elem. 50 with Col. 5 Lines 54-61), and uses the broadcast transmission sub-unit to transmit the video data (Col. 5 Lines 40-44 and 61-65), and the individual transmission sub-unit to transmit the substitute I frame data (Col. 7 Lines 10-17, note Kunkel teaches that I frames must be sent at the beginning of a target ad, and Satoda teaches that the second encoding unit provides dedicated I frames), and

the option data transmission unit transmits the option video data in an individual transmission manner (Col. 5 Lines 54-65).

For **Claim 6** as discussed in Claim 5, Kunkel further teaches:

the video data transmission apparatus of Claim 5, wherein the transmission unit includes a switch sub-unit (Fig. 2A Elem. 52) operable to exempt a reception terminal to which substitute I frame data or option video data is being transmitted from being a target of transmission of the video data by the broadcast transmission sub-unit (Col. 6 Lines 9-26, note the PID information is used to exempt a targeted ad recipient from receiving the default ad).

For **Claim 7** as discussed in Claim 3, Kunkel in view of Satoda further teaches:

the video data transmission apparatus of Claim 3, wherein

the option data transmission unit includes an insertion sub-unit operable to

transmit secondary option data part way through transmission of the option data (Kunkel: Fig. 1 Elem. 40; with Col. 4 Lines 33-39, 47-50 and 65-67, and Col. 5 Lines 1-6); and

a third encoding sub-unit (Satoda: Fig. 7 Elem. 20-1) operable, after transmission of the secondary option data ends and before transmission of the option data resumes, to generate option data substitute I frame data that corresponds to at least one frame of the option data starting from a frame that is a first frame after transmission resumption (Kunkel: Col. 7 Lines 14-17, note Kunkel teaches that I frames are needed when acquiring an original video stream),

wherein when transmission of the option data is to resume after the transmission of the secondary option data ends, the option data transmission unit transmits the option data substitute I frame data to the reception terminal before transmission of the option data resumes (Kunkel: Col. 7 Lines 13-17).

For **Claim 8** as discussed in independent Claim 2, Satoda further teaches:

the video data transmission apparatus of Claim 2, wherein

the first encoding unit and the second encoding unit are realized in separate encoders (Fig. 5 Elements 20a, 22 and 23).

For **Claim 9** as discussed in independent Claim 2, Satoda further teaches:

the video data transmission apparatus of Claim 2, wherein

the transmission unit determines how many frames of substitute I frame data to transmit to the reception terminal before resuming transmission of the video data

(Paragraph [0132] Lines 1-7), based on a GOP structure of the video data, and in particular, based on a frequency of appearance of frames having an I attribute or a P attribute (Paragraph [0135] Lines 1-7, note Satoda teaches a substitute I frame is transmitted to a user terminal if the interframe encoder is outputting a P frame; however if the interframe encoder is outputting an I frame the substitute I frame is not needed, and thus is not transmitted).

Conclusion

The following is prior art made of record and not relied upon, but considered to be pertinent to applicant's disclosure:

a. U.S. Patent 6,029,045 "System and method for inserting local content into programming content",

b. U.S. Patent 6,370,199 "Method and apparatus for processing compressed video data streams"

c. U. S. Patent 6,526,582 "method and system for provisioning a single physical broadband drop to accommodate multiple specific devices".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD C. SIPPLE IV whose telephone number is (571) 270-3414. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendleton can be reached on (571) 272 7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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